Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT

for

Potrero Hills Landfill
Facility #A2039

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Suisun, CA

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TABLE OF CONTENTS

Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) requires the owner or operator of a landfill that is subject to this part and that has a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV of this report, this facility is a designated facility, because it meets the criteria listed in 40 CFR § 60.32c(c).

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

B. Facility Description

This facility opened in 1986. The Potrero Hills Landfill (S-1) is an active Class III solid waste disposal site consisting of 401 total acres located southeast of Fairfield, CA in Solano County. The landfill accepts non-hazardous residential, commercial, industrial, and inert wastes. This landfill is equipped with an active gas collection system (a system of pipes and blowers) that includes 18 vertical wells. The wells are perforated sections of the pipes that are buried in the refuse at various locations. The blowers collect landfill gas by creating a vacuum in the buried refuse that draws landfill gas into the perforated pipes. The blowers vent the collected landfill gas to the Landfill Gas Flare (A-2).

In addition to the landfill, the facility also includes a Wood Grinding Operation (S-10, S-11, and A-10), which is not currently operating and is not permitted for composting, two Diesel Powered Generators (S-12 and S-13) for on-site electrical power needs, and a Non-Retail Gasoline Dispensing Facility (S-14).

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Regulation 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Regulation 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Regulation 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement devices table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the listed sources has previously been issued an authority to construct and/or permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239. This facility does not have any significant sources that do not have District permits.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules and Regulations
- SIP Rules (if any) are listed following the corresponding District regulation. SIP rules are District regulations that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are federally enforceable and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All

monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills with more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34 has required that the landfill at this site be controlled by an active landfill gas collection system and a landfill gas control system since 1994.

Landfills and landfill gas combustion equipment may also be subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The EG for MSW Landfills (40 CFR Part 60, Subpart Cc) applies to landfills that have had no design capacity modifications since May 30, 1991 but that have accepted waste since November 8, 1987.

The BAAQMD implemented the EG by amending Regulation 8, Rule 34 on October 6, 1999. Initially, Bay Area landfills were subject to the Federal Plan for MSW Landfills (40 CFR Part 62, Subpart GGG) until EPA incorporated the October 1999 amendments to Regulation 8, rule 34 into the California State Plan for MSW Landfills (40 CFR § 62.1115). On September 20, 2001, EPA amended the California State Plan to include BAAQMD's October 1999 amendments and amended the Federal Plan to remove Bay Area landfills from the Federal Plan, effective November 19, 2001. Therefore, BAAQMD Regulation 8, Rule 34, as amended on October 6, 1999, is federally enforceable. In addition, the October 1999 amendments were adopted into the SIP, effective August 30, 2002.

In accordance with the EG, BAAQMD Regulation 8, Rule 34 requires landfills with a design capacity of more than 2.5 million Mg (2.755 million tons) and more than 2.5 million m^3 (3.269 million yd^3) to be equipped with landfill gas collection and control systems. The design capacity of the Potrero Hills Landfill exceeds these applicability criteria. Subject landfills and the associated collection and control systems are required to meet numerous operating, monitoring, and reporting requirements. These requirements are specified in detail in Section IV of the permit.

Landfill operations and landfill gas combustion devices are also subject to numerous other BAAQMD regulations and permit conditions. All applicable requirements are described in Section IV of the permit.

This facility has a Non-Retail Gasoline Dispensing Facility that includes an above ground storage tank and one dispensing nozzle. In addition to BAAQMD and SIP Regulation 8, Rules 5 and 7, this operation is subject to a California Air Resources Board Executive Order (CARB EO) that describes specific equipment standards and operating procedures that must be followed.

However, there are no applicable federal requirements. All applicable District and state requirements are described in Section IV of the permit.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10, which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance for the period of July 25, 2001 to July 24, 2002. . The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

While the District has authority to revise the existing permits, and is doing so here in conjunction with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and

Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources to ensure compliance with District rules addressing preconstruction review, Regulation 2-1-301. These limits are being added to the existing permits pursuant to the authority in Regulation 2-1-403, which provides the District with authority to "impose any permit condition [it] deems reasonably necessary to insure compliance with federal or California law or District regulations". Creating throughput limits is not required by either Part 70 or the District's MFR rules. However, the issuance of the Title V permit is an opportunity for the District to exercise authority under Regulation 2-1-403 by adding conditions to the District operating permit through a parallel process, that is, by revising the P/O concurrently with the Title V permit issuance. The District believes the addition of these throughput limits is authorized under Regulation 2-6-409.2.2, as these limits will help "assure compliance" with the District preconstruction review program.

The applicability of preconstruction review (Regulation 2-1-301) depends on whether there is a "modified source" as defined in District Regulation 2-1-234. Whether there is a modified source depends in part on whether there has been an "increase" in "emission level." Regulation 2-1-234 defines what will be considered an emission level increase, and takes a somewhat different approach depending on whether a source has previously been permitted by the District. Sources that were modified or constructed since the District began issuing new source review permits will generally have explicit or implied throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding "emission level" for purposes of Regulations 2-1-234.1 and 2-1-234.2.

In proposing throughput limits, the District has described the limits differently based on the factual support in the record. The limit may be a reporting threshold, in which case if the limit is exceeded and not reported, a permit violation has occurred. It may be a firm throughput limit, so that a violation occurs whenever the limit is exceeded. Or, it may be a modification threshold, in which case exceedence of the limit triggers a requirement to obtain an Authority to Construct. Where the information in the record is indicative of a modification threshold, but not definitive in that regard, the limit is structured as a reporting threshold, and as presumptively an emissions limit and a modification threshold. When the information in the record is definitive, the limit is structured as a firm throughput limit and a modification threshold. It would be redundant for a limit to function as both a reporting threshold and a throughput limit, and so the latter precludes the former.

As noted above for presumptive limits, exceedence of the limit is not per se a violation of the permit. *Failure to report an exceedence is a permit violation.* If an exceedence occurs, the facility has an opportunity to demonstrate that the throughput limit does not reflect the appropriate limit for purposes of Regulation 2-1-234. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a "safe harbor" for the facility. If evidence clearly shows that a source has undergone a "modification" as defined in Regulation 2-1-234, the

District would consider that a preconstruction review-triggering event, regardless of compliance with the throughput limit in the Title V permit. There is no Title V "permit shield" associated with throughput limits for sources.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the APCO to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source to the operations described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Parameter monitoring has been added for each abatement device. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

The reasons for the changes to each condition are discussed below.

Condition #1948

Part 1: Waste acceptance limits were added to define the capacity of the landfill. The tons-per day limit pertains to regulation of particulate emissions from waste transport and disposal. The total cumulative waste disposal limit and the design capacity limit pertain to regulation of VOC emissions from decomposing waste in the landfill. Since the initial permit for the landfill issued in December of 1986 did not include a waste acceptance rate limit (tons per day) or a design capacity limit (total cubic yards), these limits were derived from the Initial Design Capacity and NMOC Emission Rate Reports for the facility, submitted pursuant to Regulation 8, Rule 34. These limits are proposed as firm throughput limits and modification thresholds, so that any change to these rates constitutes a modification of the landfill source as defined in Regulation 2-1-234.4 and is subject to the Authority to Construct requirements of Regulation 2-1-301. The cumulative waste disposal limit (total tons) is based on assumptions regarding compaction density and current cover practices. The correlation between the total tons and emissions is therefore changeable based on these variables. Accordingly, this limit is proposed as a reporting threshold and as a presumptive throughput limit and modification threshold.

Part 2: The District has been adding contaminated soil handling procedures to any landfills that accept contaminated soil in order to assure compliance with the aeration

prohibitions and emission minimization requirements of Regulation 8, Rule 40. However, the Potrero Hills Landfill does not accept contaminated soil. Part 2 reflects this statement and clarifies the District's definition of contaminated soil.

Part 3: Any on-site handling operations of non-contaminated (low VOC soil) soil are subject to Regulation 8, Rule 2, which limits total carbon emissions to either a concentration of 300 ppmv or an emission rate of 15 pounds per day. Due to the fugitive nature of the emissions from on-site handling of low VOC soil, the source testing procedures typically used to determine compliance with the concentration limit are not appropriate. The calculation procedures in this part provide a method for demonstrating compliance with the Regulation 8-2-301 emission rate limit.

Part 4: This part requires the use of water and/or dust suppressants as necessary to prevent visible particulate emissions. It describes standard operating practices for minimizing fugitive dust emissions and is necessary to assure compliance with Regulation 6-301.

Part 5: Text was added to clarify that this landfill is required to control all collected gas and is prohibited from intentionally venting collected landfill gas.

Part 6: This part describes the types of collection system changes that require prior District approval in the form of an Authority to Construct.

Part 7: This part clarifies the Regulation 8-34-301.1 continuous operation requirement for landfill gas collection systems.

Part 8: This part identifies the maximum rated capacity of the A-2 Landfill Gas Flare by imposing heat input limits. These limits were derived from information in Permit Application #17693. These heat input limits will ensure that replacement or modification will not lead to an emission increase.

Part 9: The District requires a minimum temperature of 1400 °F to ensure adequate destruction of toxic compounds. The minimum temperature limit (with no averaging time) was changed to a limit averaged over any three-hour period for consistency with the federal Emission Guidelines for MSW Landfills. This part also incorporates the EG procedure for establishing a minimum temperature limit based on source test results. The most recent annual source test showed compliance with the NMOC destruction efficiency limit while the flare was operating at 1710 °F. Using the EG procedure, the minimum temperature limit will now be 1660 °F. The facility will be given 30 days notice to begin complying with this new minimum temperature limit.

Part 10: All landfill gas combustion equipment is subject to the 9-2-302 limit of no more than 300 ppmv of SO_2 in the exhaust (dry basis). Under theoretical combustion conditions, 300 ppmv of SO_2 in the exhaust is equal to 1300 ppmv of H_2S in landfill gas. This part explains that a landfill gas H_2S limit will be used as a surrogate for demonstrating compliance with the BAAQMD Regulation 9-2-302 sulfur dioxide limit. Although the sulfur content of landfill gas can vary over time, the District analyses of Bay Area landfill gas have shown no instances where the total reduced sulfur concentration

(expressed as H_2S) has exceeded 400 ppmv. Therefore, quarterly monitoring of the sulfur content in the landfill gas is appropriate for demonstrating compliance with the landfill gas H_2S limit.

Part 11: The annual source test required by 8-34-412 is described in more detail in Part 11.

Part 12: An annual landfill gas characterization test was added to measure the amounts of specific toxic air contaminants that may be emitted from the site. This test is also required by Regulation 8-34-412.

Part 13: Record keeping requirements were added to ensure compliance with applicable regulations and permit limits.

Part 14: The MSW Landfill NESHAP (40 CFR, Part 63, Subpart AAAA) that was adopted by EPA on 1/16/03 requires landfill operators to submit semi-annual reports instead of the annual report required by Regulation 8-34-411. The effective date for the semi-annual reporting frequency is January 16, 2004. This permit condition was added in order to establish the semi-annual reporting frequency and to synchronize the reporting periods and submittal dates for this report with the semi-annual MFR monitoring reports that will be required by Section I.F. of this permit.

Condition # 14098

This condition for the Non-Retail Gasoline Dispensing Facility S-14 (G# 10861) is a standard throughput condition, which is shared by numerous gasoline dispensing facilities.

Condition # 14398 (deleted)

Condition # 14398 was for the portable operation of the Wood Grinder S-10 and Wood Grinder Engine S-11. Since this equipment was not operated in accordance with the portability requirements of Regulation 2-1-220 (i.e. it remained at Potrero Hills Landfill for more than 12 consecutive months) the permits automatically reverted to conventional fixed location permits per Regulation 2-1-220.10. Therefore, the conditions for portable operation no longer apply and have been replaced by Conditions # 20044 and #20046.

Condition # 16516

This condition for the Non-Retail Gasoline Dispensing Facility S-14 (G# 10861) is a standard condition requiring an annual static pressure performance test.

Condition # 18996

Part 2: The basis was corrected.

Condition #20044

Part 1: The throughput limitation from the portable equipment conditions (Condition # 14398) was retained.

Part 2: The abatement requirement from Condition # 14398 was retained.

Part 3: The Ringelmann #1 requirement from Condition # 14398 was retained.

Part 4: This part was added to require the operator of these sources to visually observe the operations for visible emissions and correct the problem as necessary. This visual monitoring is to be used as a surrogate for demonstrating ongoing compliance with District Regulations 6-301 and 6-305.

Part 5: Throughput records required in Condition # 14398 were retained.

Condition #20046

Part 1: The hours of operation limit from Condition # 14398 was retained.

Part 2: The NOx limit from Condition # 14398 was retained.

Part 3: The NMHC limit from Condition # 14398 was retained.

Part 4: The CO limit from Condition # 14398 was retained.

Part 5: The PM10 limit from Condition # 14398 was retained.

Part 6: The fuel sulfur limit from Condition # 14398 was retained.

Part 7: An annual source test requirement added, so that a periodic demonstration of compliance with the limits in parts 2 though 5 will be made.

Part 8: The Ringelmann 1.0 emission limit from Condition # 14398 has been replaced with a visual observation requirement to detect persistent smoke from the engine. This visual monitoring is to be used as a surrogate for demonstrating ongoing compliance with District Regulations 6-303 and 6-305.

Part 9: The Condition # 14398 requirement for keeping records of fuel usage and hours of operation was retained.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The District has reviewed all monitoring and has determined the existing monitoring is adequate with the exceptions below.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) the degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of all monitoring**,** there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. When a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation**.** Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate**.**

<u>NO_x Sources</u>

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
S-11, Wood Grinder Engine	BAAQMD Condition # 20046, Part 2	$\leq$ 7.2 g/bhp-hr of NO_x	Annual Source Test

NO_x Discussion:
An annual source test requirement was added, so that a periodic demonstration of compliance with the preexisting NOx limit will be made. Annual source testing is a standard monitoring method for determining compliance with NO_x emission limits on IC engines.

<u>CO Sources</u>

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
S-11, Wood Grinder Engine	BAAQMD Condition # 20046, Part 4	$\leq$ 2.8 g/bhp-hr of CO	Annual Source Test

CO Discussion:
An annual source test requirement was added, so that a periodic demonstration of compliance with the preexisting CO limit will be made. Annual source testing is a standard monitoring method for determining compliance with CO emission limits on IC engines.

Organic Compound Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
S-1, Landfill	BAAQMD 8-2-301	≤ 15 pounds/day or ≤ 300 ppm, dry basis (applies only to aeration of or use as cover soil of soil containing < 50 ppmw of volatile organic compounds)	Records
S-11, Wood Grinder Engine	BAAQMD Condition # 20046, Part 3	≤ 1.5 g/bhp-hr of NMHC	Annual Source Test

Organic Compound Discussion:

BAAQMD Regulation 8-2-301 for the Landfill S-1: The on-site handling operations of non-contaminated (low VOC soil) soil at the S-1 Landfill are subject to Regulation 8, Rule 2, Section 301. Due to the fugitive nature of the emissions from handling low VOC soil, the source testing procedures typically used to determine compliance with the 300 ppm total carbon concentration limit are not appropriate. Therefore, calculation procedures were added in Condition #1948, Part 3, in order to provide a method for demonstrating compliance with the 15 pound/day emission limit of 8-2-301. Record keeping requirements were added to Condition #1948, Part 13d to ensure compliance with these requirements.

BAAQMD Regulation 8-40-301: The Potrero Hills Landfill does not accept any contaminated soil. Therefore, the requirements of Regulation 8, Rule 40 are not applicable. The procedures added to Condition #1948, Part 2 will verify that no contaminated soil is accepted at this facility.

BAAQMD Condition # 20046, Part 3: An annual source test requirement was added, so that a periodic demonstration of compliance with the preexisting NMHC limit will be made. Annual source testing is a standard monitoring method for determining compliance with NMHC emission limits on IC engines.

FP/PM/PM10 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring

FP/PM/PM10 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
S-1, Landfill	BAAQMD 6-301	Ringelmann 1.0	Records of all site watering and road cleaning events
A-2, Landfill Gas Flare	BAAQMD 6-301	Ringelmann 1.0	None
S-10, Wood Grinder	BAAQMD 6-301	Ringelmann 1.0	Visual observation of source during operation
S-11 Wood Grinder Diesel IC Engine	BAAQMD 6-303	Ringelmann 2.0	Visual observation of source during operation
S-11 Wood Grinder Diesel IC Engine	BAAQMD Condition # 20046, Part 5	$\leq$ 0.10 grains/dscf	Annual Source Test
S-11 Wood Grinder Diesel IC Engine	BAAQMD 6-310	$\leq$ 0.15 grains/dscf	Annual Source Test
S-12, S-13: Diesel IC Engines for Power Generation	BAAQMD 6-303	Ringelmann 2.0	Visual observation of source during operation
S-12, S-13: Diesel IC Engines for Power Generation	BAAQMD 6-310	$\leq$ 0.15 grains/dscf	None
A-2, Landfill Gas Flare	BAAQMD 6-310	$\leq$ 0.15 grains/dscf	None
S-10, Wood Grinder	BAAQMD 6-311	40 pounds/hour, for Process Weight Rate (P) $\geq$ 57,320 pounds/hour	None

PM Discussion:

BAAQMD Regulation 6-301 for S-1 Landfill: The active filling operations and associated vehicle traffic can generate significant particulate emissions. Presently this facility has no means of demonstrating compliance with the Regulation 6-301, which limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Additional monitoring is required pursuant to Part 70 of the Clean Air Act. Typically, landfills maintain compliance with Regulation 6-301 by employing a dust mitigation program and using visual monitoring by site operators to ensure that dust mitigation measures are adequate. Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, fill areas, stockpiles, and other dust prone operations and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications/day for dry days to no watering or sweeping on rainy days. Watering requirements for the Potrero Hills Landfill are specified in Condition #1948, Part 4 (proposed). The District is proposing to add record keeping requirements of all water and/or dust suppressant applications and road cleaning activities (Part 13e), in order to demonstrate compliance with the Regulation 6-301. District inspectors will observe the landfill operations on dry days to ensure that the dust mitigation measures in place are adequate to maintain compliance with the Ringelmann 1.0 limit.

BAAQMD Regulation 6-301 for A-2 Landfill Gas Flare: Visible particulate emissions are normally not associated with combustion of gaseous fuels, such as natural gas or landfill gas. The AP-42 PM emission factor for an enclosed ground flare burning landfill gas is 0.0171 pounds/MM BTU. Therefore, the maximum potential emissions from the A-2 Flare (rated capacity 45 MMBTU/hr) are approximately 3.4 tons/year of PM_{10}. Since particulate emissions are not significant and violations of Ringelmann 1.0 limit are not expected, the addition of periodic monitoring for the Ringelmann limit would not be appropriate.

BAAQMD Regulation 6-301 for S-10 Wood Grinder: Conditions were added for this source requiring the operator to actively observe the source for visible emissions while it is operating. This is a standard method of monitoring for visible emissions for this type of source. The Permit Holder is required to take all steps necessary to prevent visible emissions including shutting down the source if necessary. Since particulate emissions are visible before a Ringelmann 1.0 limit would be exceeded, these steps should prevent the exceedance of the Ringelmann 1.0 limit.

BAAQMD Regulation 6-303 for S-11 Wood Grinder Diesel IC Engine: Conditions were added for this source requiring the operator to actively observe the source for visible emissions while it is operating. This is a standard method of monitoring for visible emissions for this type of source. The Permit Holder is required to take all steps necessary to prevent visible emissions including shutting down the source if necessary. Since particulate emissions are visible before a Ringelmann 2.0 limit would be exceeded, these steps should prevent the exceedance of the Ringelmann 2.0 limit.

BAAQMD Regulation 6-310 for A-2 Landfill Gas Flare: Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. This can be compared to the AP-42 emission factor for landfill gas combustion in a flare (0.0171 pounds PM_{10}/MM BTU) as follows:

The Landfill Gas Flare A-2 can combust up to 45 MMBTU/hr (i.e. 90,000 scf/hr) of landfill gas. Therefore, the maximum expected FP emission rate is 0.77 lb/hr. At zero percent excess oxygen, typical landfill gas (50% methane/50% non-combustible with an HHV = 497 BTU/scf) produces 4.77 dscf exhaust per scf LFG. Therefore, the maximum exhaust flow from the A-2 Flare at zero percent oxygen will be 429,300 dscf/hr.

The maximum particulate grain loading (FP) in the flare exhaust based on the AP-42 factor can then be determined as follows:

$$FP = (0.77 \text{ lb/hr})(\text{hr}/429{,}300 \text{ dscf})(7{,}000 \text{ gr/lb})$$
$$= 0.013 \text{ gr/dscf @ } 0\% \ O_2$$

Since the Regulation 6-310 grain-loading limit (0.15 gr/dscf) is far above the expected PM emissions from the flare, it would not be appropriate to add periodic monitoring for this standard.

BAAQMD Regulation 6-310 and BAAQMD Condition #20046, part 5 for S-11 Wood Grinder Engine: Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15

grains per dry standard cubic foot (gr/dscf) of exhaust volume. BAAQMD Condition #20046, part 5 limits PM10 emissions to 0.10 gr/dscf. An annual source test was added (Condition #20046, part 7) to require a periodic demonstration of compliance with these limits.

BAAQMD Regulation 6-303 for S-12 and S-13, IC Engine Generator Sets: Conditions were added for these sources requiring the operator to actively observe the engines for visible emissions while they are operating. This is a standard method of monitoring for visible emissions for IC engines. The Permit Holder is required to take all steps necessary to prevent visible emissions including shutting down the equipment if necessary. Since particulate emissions are visible before a Ringelmann 2.0 limit would be exceeded, these steps should prevent the exceedance of the Ringelmann 2.0 limit.

BAAQMD Regulation 6-310 for S-12 and S-13, IC Engine Generator Sets: John Deere, the manufacturer of S-12 and S-13 has stated that the PM emission factor for the model 6081AF001 engines is 0.07 g/bhp-hr. Assuming continuous operation at 277 bhp, each engine could emit up to 19.39 grams/hour and 0.19 tons/year of PM. The maximum fuel consumption rate for each engine is 12.4 gallons per hour, which is equal to a heat input rate of 1.70 MMBTU/hour.

From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O_2 this factor becomes:

9,190 * [(20.9% – 0.0%)/(20.9% - 15%)] = 32,554 dscf (combustion products)/MMBTU

The typical flue gas exhaust rate for each engine will be:

(32,554 dscf flue gas/MMBTU)*(1.70 MM BTU/hr) = 55,342 dscf/hr of flue gas at 15% O_2

The grain loading under typical operating conditions will be:

(19.39 grams/hr)*(7000 grains/454 grams)/(55,342 dscf/hr) = 0.054 grains/dscf at 15% O_2

Since the manufacturer's PM emission factor for S-12 and S-13 results in a grain loading rate that is much lower than the Regulation 6-310 limit, compliance is assumed. Therefore, the addition of periodic monitoring for S-12 and S-13 is not recommended.

BAAQMD Regulation 6-311 for S-10 Wood Grinder: This regulation limits mass emissions on a sliding scale based on the process weight rate. Since it would be virtually impossible to meaningfully monitor compliance with these limits due to variable operation rates and the fugitive nature of the particulate emissions, emission calculations will be used to demonstrate ongoing compliance with this regulation using assumptions about material throughput and emission rates. The BAAQMD has accepted an unabated particulate emission factor for S-10 of 0.018 pounds/ton. S-10 has a maximum wood waste capacity of 75 tons/hour, resulting in a maximum unabated particulate emission rate of 1.35 pounds/hour. At a process weight rate of 75 tons per hour, Regulation 6-311 limits emissions to 40 pounds/hour (maximum allowable emission rate for any operation processing more than 57,320 pounds/hour of material). The maximum allowable emission rate is nearly 30 times higher than the expected unabated emission rate. The same holds true for any process weight rate at which S-10 may be operating. Therefore, no monitoring is recommended for this standard.

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
A-2, Landfill Gas Flare	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None
S-11 Wood Grinder Engine	BAAQMD 9-1-301	Property Line Ground Level SO_2 Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None
S-12, S-13: IC Engine Generator Sets	BAAQMD 9-1-301	Property Line Ground Level SO_2 Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None
A-2, Landfill Gas Flare	BAAQMD 9-1-302	≤ 300 ppm (dry)	Quarterly Sulfur Analysis of Landfill Gas and Annual Source Test
S-11 Wood Grinder Engine	BAAQMD 9-1-304	Fuel Sulfur Content Limit: ≤ 0.5% sulfur by weight	Vendor Certification
S-1, Landfill	BAAQMD Condition # 1948, Part 10	Landfill Gas Sulfur Content Limit: ≤ 1300 ppmv of TRS as H_2S	Quarterly Sulfur Analysis of Landfill Gas

SO_2 Discussion:

BAAQMD Regulation 9-1-301: As discussed below for BAAQMD Regulation 9-1-302, this facility will be subject to a federally enforceable limit, which will ensure compliance with the BAAQMD Regulation 9-1-302 emission limit of 300 ppmv of SO_2 in the flare exhaust. Since the heated exhaust gases from the flare will be widely dispersed, compliance with the 9-1-302 limit is expected to ensure compliance with the ground level concentration limits listed in BAAQMD Regulation 9-1-301. Maximum potential emissions are 85.0 tons/year of SO_2 from the A-2 Landfill Gas Flare. However, actual emissions are not expected to exceed 26.2 tons/year based on source test data. Since actual emissions are not substantial, monitoring for ground level SO_2 concentrations in addition to the proposed landfill gas monitoring is not recommended.

Likewise, sources complying with the BAAQMD Regulation 9-1-304 fuel sulfur content limit are not expected to result in exceedances of the BAAQMD Regulation 9-1-302 ground level limits due to the dispersion of the SO_2 emissions that will occur in the atmosphere over the facility. Maximum potential emissions from S-11, S-12, and S-13 combined will be 1.4 tons/year of SO_2. Since actual emissions are not substantial, monitoring for ground level SO_2 concentrations in addition to monitoring the fuel for compliance with the 0.05% fuel sulfur content limits is not recommended.

BAAQMD Regulation 9-1-302 for A-2 Landfill Gas Flare: SO_2 emissions from the flare are limited to 300 ppm (dry). As a surrogate to this limit, the facility will be subject to a federally enforceable limit of 1300 ppmv of total reduced sulfur (TRS) compounds in the landfill gas, expressed as hydrogen sulfide (H_2S). Since the SO_2 emissions will vary directly with the amount of sulfur (S) compounds present in the fuel, a mass balance calculation can be performed to determine the maximum SO_2 emissions from the Flare A-2 based on the concentration limit for sulfur compounds in the landfill gas. Assuming all sulfur is converted into SO_2 upon combustion, the SO_2 emission factor will be:

SO_2 = (1,300 X 10^{-6} lb-mole S/lb-mole gas)(lb-mole SO_2/lb-mole S)(64.06 lb SO_2/lb-mole SO_2)(lb-mole gas/387 scf)
= 2.152 x 10^{-4} lb SO_2/scf LFG

The Landfill Gas Flare A-2 can combust up to 45 MMBTU/hr (i.e. 90,000 scf/hr) of landfill gas. Therefore, the maximum allowable SO_2 emission rate is 19.4 lb/hr. At zero percent excess oxygen, typical landfill gas (50% methane/50% non-combustible and 497 BTU/scf) produces 4.77 dscf exhaust per scf LFG. Therefore, the maximum exhaust flow from the A-2 Flare at zero percent oxygen will be 429,300 dscf/hr. The maximum concentration of SO_2 in the engine or flare exhaust can then be determined as follows:

ppm SO_2 = (19.4 lb SO_2/hr)(hr/429,300 dscf)(lb-mole SO_2/64 lb SO_2)(386 dscf gas/lb-mole gas)
= 2.73 X 10^{-4} lb-mole SO_2/lb-mole gas
= 273 ppm SO_2

Since the calculated SO_2 concentration is less that 300 ppm, compliance with the landfill gas TRS limit will assure compliance with Regulation 9-1-302.

BAAQMD Regulation 9-1-304 for the Wood Grinder Engine S-11: In accordance with BAAQMD Condition # 20046, Part 6, this facility will be required to demonstrate (by vendor certification) on an ongoing basis that only low sulfur (≤0.05%) fuels are used at S-11. The sulfur content in low sulfur fuels is far below the BAAQMD Regulation 9-1-304 limit of 0.5% sulfur by weight. The use of vendor certification records is a standard method of monitoring for compliance with a liquid fuel sulfur content limit.

BAAQMD Condition # 1948, Part 10: In accordance with BAAQMD Condition # 1948, Part 10, this facility will be required to monitor for the total reduced sulfur (TRS) content in the landfill gas on a quarterly basis using a draeger tube measuring H_2S. The use of a draeger tube is a standard method of monitoring for TRS content in landfill gas. District analyses of Bay Area landfill gas have not found any instances where the TRS content has been higher than 400 ppmv. Since the actual landfill gas sulfur content is expected to be much lower than the limit (less than one third of the limit), quarterly monitoring is sufficient to demonstrate compliance with the landfill gas sulfur content limit.

H_2S Sources

S# & Description	Emission Limit Citation	Emission Limit (Not Federally Enforceable)	Added Monitoring
S-1, Landfill	BAAQMD 9-2-301	Property line ground level limits: ≤ 0.06 ppm Averaged over 3 minutes and ≤ 0.03 ppm Averaged over 60 minutes	None
A-2, Landfill Gas Flare	BAAQMD 9-2-301	Property line ground level limits: ≤ 0.06 ppm Averaged over 3 minutes and ≤ 0.03 ppm Averaged over 60 minutes	None

Hydrogen Sulfide (H_2S) Discussion:

BAAQMD 9-2-301 for Landfill S-1 and Flare A-2: Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, H_2S emissions are typically discovered by smell well before the concentration approaches the lowest Regulation 9-2-301 emission limit of 0.03 ppmv. The District rarely ever receives complaints about hydrogen sulfide odors from Bay Area landfills and has never received any complaints about hydrogen sulfide odors from this facility. Since H_2S odors have not been detected at this facility, the concentration of H_2S at the property line is expected to be well below the Regulation 9-1-301 limits. Monitoring for ground level H_2S concentrations would not be appropriate when no H_2S odor problem exists.

Other Limits

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Added Monitoring
A-2, Flare	BAAQMD Condition #1948, Part 8	≤ 1,080 MM BTU per day and ≤ 394,200 MM BTU per year	Gas Flow Meter and Records

Other Limits Discussion:
The use of a gas flow meter and records is a standard method for monitoring heat input limits to flares and other combustion devices.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in an MFR permit explaining that specific federally enforceable regulations and standards that are not applicable to a source or group of sources, or (2) A provision in an MFR permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, record keeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

A July 31, 2002 office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, presents a review of the compliance record of Potrero Hills Landfill (Site #A2039). The Compliance and Enforcement Division staff has reviewed the records for the Potrero Hills Landfill for the period of July 25, 2001 through July 24, 2002. This review was initiated as part of the District's evaluation of the Title V permit application for the facility. During the review period:

- There were two Notices of Violation issued during this review period: (1) violation of Regulation 8-34-301.2 (component leaks >1,000 ppmv) and (2) violation of Regulation 8-34-301.1 (shutdown of over 10% of landfill gas wells).
- The District received two odor complaints, neither of which were confirmed by the District's Field Inspector.
- The facility is not operating under a Variance or an Order for Abatement from the District Hearing Board.

The Responsible Official of the Potrero Hills Landfill re-certified that all equipment was operating in compliance on October 7, 2002. No non-compliance issues have been identified since that date.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was submitted on May 2, 2001. This application is the basis for the proposed Title V permit. Differences between the application and the proposed permit are discussed below.

Throughput limits (identified by a basis of Regulation 2-1-301) have been added to all sources with no existing throughput or emission limits.

In their application, the Potrero Hills Landfill identified the applicable requirements for their facility in very general terms. The District has specifically identified the applicable requirements for this facility.

The following equipment was added to the Title V permit:

- The Diesel IC Engines for Power Generation, S-12 and S-13 were added under Permit Application #4127.
- The Non-Retail Gasoline Dispensing Facility, S-14 was added under Permit Application #6250.

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APPENDIX A
BAAQMD COMPLIANCE REPORT

APPENDIX B
GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

ARB
Air Resources Board

A/C
Authority to Construct

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority which allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CEQA
California Environmental Quality Act

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CH4 or CH_4
Methane

CO
Carbon Monoxide

CT
Combustion Zone Temperature

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

EG
Emission Guidelines

EO
Executive Order

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

GDF
Gasoline Dispensing Facility

H2S or H_2S
Hydrogen Sulfide

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

HHV
Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

LFG
Landfill gas

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous

air pollutants as determined by the EPA administrator.

MAX or Max.
Maximum

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSW
Municipal solid waste

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx or NO_x
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There

are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

P/O
Permit to Operate

PV or P/V Valve
Pressure / Vacuum Valve

RMP
Risk Management Plan

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2 or SO_2
Sulfur dioxide

SSM
Startup, Shutdown, or Malfunction

SSM Plan
A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

THC
Total Hydrocarbons (NMHC + Methane)

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Policy

TRS
Total Reduced Sulfur

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute

dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
lb	=	pound
lbmol	=	pound-mole (eq. to molecular weight of compound x lb)
in	=	inches
m^2	=	square meter
m^3	=	cubic meters
min	=	minute
mm	=	million
MM	=	million
MM BTU	=	million BTU
MMcf	=	million cubic feet
Mg	=	mega grams
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
yd	=	yard
yd^3	=	cubic yards
yr	=	year